(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 27 January 2005 (27.01.2005)

PCT

(10) International Publication Number WO 2005/007201 A3

(51) International Patent Classification⁷: A61B 17/04

(21) International Application Number:

PCT/US2004/021586

(22) International Filing Date: 6 July 2004 (06.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/614,654 7 July 2003 (07.07.2003) US

(71) Applicant and

(72) Inventor: KIM, Andrew, C. [US/US]; 30213 Del Rey Road, Temecula, CA 92591 (US).

(74) Agent: COGAN, Robert, P.; Nath & Associates PLLC, 1030 15th Street N.W., 6th Floor, Washington, DC 20005-1503 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

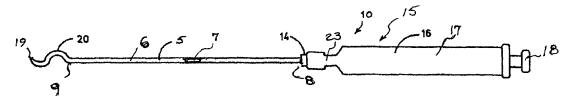
Published:

with international search report

(88) Date of publication of the international search report: 9 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HYDRODYNAMIC SUTURE PASSER



(57) Abstract: A hydrodynamic suturing instrument (10), comprising an elongated cannulated suturing needle (6) having a distal end configured to carry a suture (24) through tissue and a proximal end adapted to connect to a syringe barrel (17) and a lumen extending from said proximal end to an opening at the distal end for having a size for the passage of a suture, and the opening at the distal end configured to receive a suture extending from the lumen along an outer surface of the needle wherein a sharp point extends forward of the suture. A companion instrument (38) includes forceps having a distal end with jaws (42, 48) and a proximal end with a lumen extending from the proximal end to the distal end for passage of the needle, and the jaws having an opening enabling passage of the needle through tissue grasped in the jaws.

/007201 43

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/21586

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61B 17/04 US CL : 606/144, 146, 222, 224 According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) U.S.: 606/144, 146, 222, 224				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST: suturing needle, syringe, plunger				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where appropriate, of the relevant passages			Relevant to claim No.
X	US 3,840,017 A (VIOLANTE) 08 October 1974 (08.10.1974), column 3, lines 17-39.			33-37
 Y				39-40
Y	US 5,562,683 A (CHAN) 08 October 1996 (08.10.1996), coulmn 19, lines 1-11.			39-40
Α	US 4,224,947 A (FUKUDA) 30 September 1980 (30.09.1980), see Abstract of the Disclosure			1-40
Further documents are listed in the continuation of Box C. See patent family annex.				
Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance		"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be	
"E" earlier ap	"X" document of particular relevance; (arlier application or patent published on or after the international filing date considered novel or cannot be cons when the document is taken alone			
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y"	considered to involve an inventive step when the document is combined with one or more other such documents, such combination	
"O" document referring to an oral disclosure, use, exhibition or other means being obvious to a person skilled in the art document published prior to the international filing date but later than the "&" document member of the same patent family				
priority date claimed				erch report
Date of the actual completion of the international search		Date of mailing of the international search report		
06 February 2005 (06.02.2005) Name and mailing address of the ISA/US		Authorized officer (XUU)		
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450		Gary Ja	ackson / 200	
Facsimile No. (703) 305-3230				